A periodic report from

THE NATIONAL DIGITAL LIBRARY PROGRAM

THE LIBRARY OF CONGRESS

Hewlett-Packard gift exemplifies industry support

Cartography: Industry Support Moves Library to State-of-the-Art Digitization

With the recent donation of nearly $600,000 worth of computer equipment to the Library by Hewlett-Packard (HP), the nascent Center for Geographic Information and the related Geographic Information Systems (GIS) facility in the Geography and Map Division (G&M) both took a giant leap forward.

At a ceremony on May 14 thanking Hewlett-Packard for its generous donation in support of the Library's National Digital Library (NDL) Program for cartographic materials, Dr. Billington noted the importance of the gift.

"As more powerful computers and satellite-based technologies revolutionize the way we can look at, analyze and map the world, the Geography and Map Division has expanded its range of collections to include modern digital forms of geographic and cartographic information. The equipment needed to support these new technologies is complex and expensive, and the Hewlett-Packard Co. has given the Library the tools it needs to work in these fields."

The Librarian also pointed out that this same equipment comprises the core of what is needed to support the scanning of the Library's historical maps for the NDL.

"In helping the Geography and Map Division adapt to the modern world of geography and cartography, the executives of HP who made this donation possible have also embellished the vision of their founder, David Packard." He added that the National Digital Library Program was started in October 1994 with $13 million

GEOGRAPHY

AND

MAP DIVISION

in seed money, including $5 million provided by the Lucile and David Packard Foundation.

Ralph Ehrenberg, chief of the Geography and Map Division, explained the relationship between the HP gift and the Center for Geographic Information.

"The genesis for this donation began with the Center for Geographic Information, which was formed last year as a partnership of private sector firms and the Geography and Map Division to help us develop, enhance and promote the Library's geographic and cartographic collections and to aid in our transition to the era of geographic information systems."

The equipment donated by Hewlett-Packard, said Mr. Ehrenberg, includes a series 9000, K400 server; four workstations; three x-windows stations; four printers, including one large-format color plotter; six personal computers; and an optical disk jukebox with 165 gigabytes of storage. It will be used to support the development of general GIS capability in the division and to assist in the scanning program for the NDL.

The Geography and Map Reading Room was reconfigured this spring, with the assistance of staff from the Library's Facility Design and Construction Office and Information Technology Services (ITS) to accommodate the new equipment. Once installation and testing of the equipment and training of G&M staff are completed, the GIS facility will be available to congressional staff and members of the public who need to work with digital cartographic data.

Ten core historic Americana collections from the G&M Division have been earmarked for scanning for the NDL Program. When that happens, they will be available on the Internet like other digitized Library materials.

The Center for Geographic Information. The Library's collection of cartographic materials is the largest in the world, with nearly 4.5 million maps, more than 60,000 atlases containing another 8 million to 10 million maps, some 300 globes and other related materials. In the early 1990s, digital files of geographic data began appearing among cartographic materials deposited by federal mapping agencies.

The development and evolution of the computer have revolutionized the possibilities for the manipulation of cartographic data in much the same way that the computer has changed the way we handle other kinds of information.

In the last 30 years, according to Gary Fitzpatrick, the Geography and Map Division's GIS specialist, automated mapping and geographic information systems have completely changed the way that professionals create maps and analyze geographic data. Different types of geographic information—such as roads, contour lines, streams, buildings, vegetation, population or other demographic information—are described in separate digital files, and they can then be mapped and analyzed within various computer applications.

When Geography and Map Division staff began assessing how digital forms of geographic and cartographic information could be integrated into the collections, they realized that the technologies required knowledge and skills that the division did not possess. It was also clear that a complex and expensive suite of computer equipment was required that would be difficult to acquire through normal budgetary channels.

"Only through the help of the industry that was driving these technologies," said Mr. Fitzpatrick, "would the division be able to make the transition to the digital era."

In November 1993 the James Madison Council, a private sector advisory group to the Library, provided $30,000 to investigate the establishment of a corporate support group for the division. That same month, Alan M. Voorhees, a longtime friend and supporter of

James Earl Jones, distinguished actor and active member of the James Madison Council, discusses cartography with Ralph Ehrenberg, chief of the Geography and Map Division. Mr. Jones's son, Flynn, looks at historical maps with Robert Garber, President of Tangent Engineering.

Industry, from page 2

G&M and the Library, volunteered to lead the effort in attracting industry support.

The first meeting of that corporate support group, the Center for Geographic Information, was held at the Library on Jan. 12, 1995, with eight firms committed to being charter members: Autometric Inc., Environmental Systems Research Institute Inc., Harvard Design and Mapping Company Inc., the H.M. Gousha Company, Intergraph Inc., Magellan Geographix Inc., MapInfo Corporation and Tangent Engineering Inc.

Mr. Voorhees, who is also chairman of the board of Autometric, a firm engaged in many aspects of the latest geographic technologies, agreed to be chairman of the Center for Geographic Information. He has also offered to sponsor a fellow for one year to provide technical assistance to the GIS facility and he continues to provide guidance on map collecting to the Madison Council as a member of its acquisition committee.

The purpose of the Center for Geographic Information is to coordinate the contribution of resources and knowledge from a wide spectrum of the geographic information and cartography industry to:

(1) aid the Geography and Map Division in its transition to the age of electronic maps and digital forms of geographic information through advice and financial support for acquiring hardware, software and data sets;

(2) facilitate sharing the rich cartographic resources of G&M electronically;

(3) promote the use of electronic forms of geographic information by many sectors of the nation, including libraries, academia, industry and commerce, education and the general public; encourage deposits of digital spatial data sets by American and foreign government, industry and academic producers; and

(4) advance the Library's publication, education and exhibition programs in geographic information and cartography.

Members of the center benefit in a number of ways as well. They have enhanced access to the vast cartographic collections of the Library, which they are encouraged to use as resource material and to distribute in a variety of value-added formats for their own use within GIS applications. The division's expertise in cataloging practices can be shared with developers and users of digital forms of geographic information.

Using its unique position within the Library of Congress, the division can sponsor programs that address specific needs of the cartographic and geographic information communities and provide useful links among these communities, Congress and other institutions. Finally, through the center, the staff will work with producers and users of geographic information and digital cartography to ensure that digital forms of geographic information are systematically collected and preserved for the future use of the nation.

The first meeting of the center, held in January 1995, resulted in a major development: the donation of a large-format, flatbed, color scanner by Tangent Engineering, a move spearheaded by its chief operating officer, Robert Garber. It can scan flat items up to 24 by 34 inches at resolutions of up to 600 dots per inch and in 24-bit color. (See story, January/February 1996 issue.)

As a result of this donation, the division acquired the technology to scan its existing maps, and the Library's overall NDL program adopted G&M's proposal to establish a National Digital Library Program for Cartographic Materials, which it has agreed to support through the funding of four positions in the division to operate the scanning program.

In a ceremony in the division in April 1995, Dr. Billington and John Kluge, the president of the James Madison Council, cut the ribbon on the scanner and participated in the scanning of the first image from the Library's collections: George Washington's own plan of his farm on Little Hunting Creek, prepared in 1766. The

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—*Gary Fitzpatrick Geographic Information Systems specialist, Geography and Map Division*

The first map digitized by the Geography and Map Division was George Washington's own plan of his farm on Little Hunting Creek, prepared in 1766.

result is so fine that it is difficult to distinguish the scanned map from the original.

In the year since the scanner was installed, the division has scanned several hundred maps in a trial phase and has been working with the members of the center on technical standards and work flow design in preparation for a large-scale scanning project of its collections.

The Center for Geographic Information has met three times since its January 1995 organizational meeting—in June 1995 at the Library; in October 1995 in Santa Barbara, Calif., at Magellan Geographix; and most recently back at the Library last May. Five more companies have joined as full members (Corbis Corp., Microsoft Corp., Mindscape Inc., Rand McNally and Tactician Corp.), and seven firms are participating as associate members (Comark Government and Education Sales, Environmental Data Resources Inc., Adrian B. Ettlinger, MapLink Inc., Macromedia Inc., Spatial Data Institute and Systems Planning and Analysis Inc.).

Full corporate membership in the center has been established at $5,000, with associate memberships at $500. Support from industry members also includes in-kind assistance as necessary in providing the Geography and Map Division with appropriate equipment and software to begin developing expertise in the scanning of maps and the use of cartographic/geographic software and digital forms of geo-

graphic data; deposit of data sets; and participation on task forces to accomplish the goals of the center.

Shortly after the donation of the scanning system, the Hewlett-Packard Co. made its offer of equipment to the division. And G&M found itself with the full infrastructure needed to accomplish its long-range goals.

In fact, Mr. Fitzpatrick said at the May 1996 meeting of the Center for Geographic Information that the GIS facility was already way ahead of where he thought it would be by now. "I thought it would take us five to seven years to get to the point where we are today."

Ten core historic Americana collections from Geography and Map have been designated as materials that will eventually be scanned for the National Digital Library Program, including Civil War maps, county landownership maps and atlases, panoramic maps of U.S. cities of the late 19th century, Sanborn fire insurance maps, and maps and atlases of the District of Columbia. When that happens, they will be available over the Internet like other digitized Library materials.

The May 1996 meeting of the Center for Geographic Information approved the draft prospectus for 1996-1998 and discussed membership, scanning and on-line access, general interest programming and outreach. Some of its specific goals for 1996 and beyond are: to work with the Congressional Research Service of the Library to use GIS technologies and the division's scanning capability to assist Congress more directly; to begin laying the groundwork for the acquisition of foreign geographic data sets; to design a major training program for division staff in the new geographic technologies; to form partnerships with universities to provide students and faculty the opportunity to work with the division's collections and geo-

graphic technologies; to use center funds to bring in specialists to assist the division in learning to use the new technologies and equipment that have been donated; to initiate a corporate fellows program in which participating firms can place employees in the division for short periods; to present special programs and/or symposia on topics related to geographic information; and finally, to explore ways in which the division can use the Internet and other electronic data networks to share its resources with the nation.

The Geography and Map Division has made great strides in moving into the new world of digital geographic information in the last three years, largely because of the efforts of its staff and its success in convincing private sector companies that they have a lot to gain by becoming involved in this enterprise. Direct cash contributions to the center in 1995 totaled $41,500, and the value of hardware and software contributed to date is more than $715,000.

NDL Program Awards Contract for Digitizing Microfilm Collections

On Aug. 6, the National Digital Library Program, working with the Contracts and Logistics Division, awarded the first of several major scanning and text-conversion service procurements. This first contract, for the digital imaging of selected collections from the Library's extensive retrospective holdings of 35mm microfilm, was awarded to Preservation Resources, a division of the OCLC Online Computer Library Center. Preservation Resources is a not-for-profit organization exclusively devoted to reformatting of library and archival materials. Originally called MAPS (Mid-Atlantic Preservation Service), the organization was established in 1985 to serve the preservation microfilming needs of five research libraries—Columbia University Libraries, Cornell University Library, Princeton University Library, New York State Library and New York Public Library. Thereafter, it extended its services to libraries and archives throughout the nation. It has been a division of OCLC Inc. since 1994 and is based in Bethlehem, Pa.

Since 1985 Preservation Resources has completed preservation microfilming projects for numerous institutions, filming approximately 200,000 volumes, much of this material for preservation projects supported by the National Endowment for the Humanities' Division of Preservation and Access. It has also completed several demonstration activities relating to digitizing materials from preservation microfilm for the University of Texas, New York Public Library and the Association of Research Libraries.

The contract award is for an initial year plus four option years, during which time approximately 1 million images are to be produced and made available by the NDL Program over the Internet. The microfilm of the historical collections that will be scanned within the NDL Program was produced between 1950 and 1994. The first collection to be scanned under this contract will be the papers of George Washington from the Library's Manuscript Division. In April, Reuters donated $1 million to the Library for the digitization of the Washington and Thomas Jefferson papers. Other collections to follow will be collections from the Music Division and the papers Abraham Lincoln. Other, smaller collections and individual titles will also be scanned.

—Tamara Swora
National Digital Library Program

The first collection to be scanned by Preservation Resources will be the papers of George Washington.

ALA Conference Stresses Information Superhighway Issues

Despite dire predictions of poor attendance, the Annual Conference of the American Library Association (ALA) at the Jacob Javits Center in New York City drew nearly as many attendees as the record-breaking conference last summer in Chicago.

The overall attendance in New York was 23,747, or about 900 fewer than in Chicago. Paid registration was down by 2,500, and exhibitor downsizing left the association short of projected revenues. Many vendors cut the size of their exhibit booths or stayed home altogether because they were angry over the association's rejection of Orlando in favor of New York, the high cost of doing business in the city and the fact that the conference was held during the Independence Day weekend, July 6–9.

For the Library of Congress, however, the news was all good. Traffic in the booth was heavy, with attendees anxious to learn more about the National Digital Library (NDL) Program, the Copyright Office, the Center for the Book, the Cataloging Distribution Service and the Federal Library and Information Center Committee. Copies of a special LC *Information Bulletin* on the NDL Program as well as of the latest issue of *Civilization* magazine, which recently won a National Magazine Award, were quickly snapped up. Library-related merchandise, available for sale, was also popular.

Dr. Billington delivered an address during the President's Program, July 7. The overall theme of the program was "A Nation Connected: Defining the Public Interest in the Information Superhighway."

Betty Turock, ALA president, began by pledging the association's dedication to ensuring "equity on the Information Superhighway." "The emerging technology of the Information Superhighway," she said, "is changing the way we live, work and connect with one another."

But she warned that "the evolving infrastructure threatens to widen the chasm that already exists between the information rich and the information poor. ... Unless we take steps to protect the public interest, the Information Superhighway could become a road open only to those who can afford it. ... And that's where libraries enter the picture.

"Libraries have historically served as the nation's great equalizers, providing people of all ages and backgrounds with the information they need regardless of their ability to pay," Ms. Turock continued.

Gwendolyn Baker of the U.S. Committee for UNICEF next told how "I cannot begin to describe how important my own public library was to me. I wanted to be the member of the club who had read the most books."

Although Ms. Baker realized the potential of electronic information, she exhorted the attendees to "ensure that people not profits have the right of way" on the Information Superhighway.

Dr. Billington echoed her words when he said that "providing free access to knowledge is what libraries are all about." The Librarian has championed the benefits of electronic information while at the same time noting that "questions of [information] equity are part of the question of whether the Information Superhighway will support the best values of American tradition. The Information Superhighway is not a passive couch-potato culture, as is TV. It has the capacity to engage the mind the way reading does. Theoretically it should have this effect. The answer, however, is less clear when you look on the network."

The Librarian also said he was heartened by the Internet's capacity to give the Library a new constituency. "The Internet is a logical extension of our 21 reading rooms on Capitol Hill. We have now assumed the burden of helping with the educational process," he said, referring to the K-12 community that is now served by the Library through its American Memory historical collections as well as other on-line initiatives. (See "School's In!" p. 7.)

School's In!

The National Digital Library welcomes students to a new school year with a Back to School Special on the Learning Page, a site for for teachers and students available via the Library of Congress World Wide Web homepage (**http://www.loc.gov/**).

The Back to School Special includes a new area called Learn More About It! in which teachers and students will find pages full of helpful hints for using on-line historical documents, photographs, motion pictures and sound recordings available from the American Memory historical collections on the Library's website. For example, users can access illustrated guides to the U.S. history content covered by each on-line collection. Teachers will find ideas on classroom uses for electronic materials.

Working in partnership with the Center for the Book of the Library of Congress, the Learning Page also features book lists under the familiar banner "Read More About It," a hallmark of the center's literacy program. For each historical collection, Read More About It will offer general-interest and younger-reader lists.

The Learning Page's subject search guides, called Pathfinders, have also been upgraded for the Back to School Special. Pathfinders for Events, People, Places, Time and Topics have been expanded to include new search assistance specific to education. A new Pathfinder based on historical eras has been added to the Time Pathfinder. Three new primary source collec- tions that came on-line in July have been mapped into the Pathfinders: The Evolution of the Conservation Movement, 1850-1920; the Gottscho-Schleisner Photograph Collection, 1935-1955; and the Theodor Horydczak Photograph Collection, 1923-1959. (See illustrated story, July/August issue.)

The Learning Page is featured in the latest issue of *School Library Journal* (Sept. 1996) in "History Repeats Itself: Primary Documents Go Online at the Library of Congress," by Martha Dexter, in the educational services area of LC's National Digital Library (NDL) Program.

In other education-related activities this summer, the NDL Program co-sponsored a World Wide Web institute with the University of Maryland's Center for Renaissance and Baroque Studies and Computer Science Center. The institute, "Teaching the Humanities through Technology," was held in July and was attended by 41 Maryland secondary school teachers representing 11 schools in three districts. (Story next issue.)

The five-day program promoted the use of new technologies in teaching the humanities and social studies. Teachers attended workshops on how to access education resources on-line, how to use on-line communication and how to search the Web for teaching resources. They also learned how to tap into the Library of Congress primary source materials.

—Martha Dexter
National Digital Library Program

Students and teachers alike have rich source material in the Learning Page.

Journalist Richard Rodriguez, an editor for the Pacific News Service and author of *Days of Obligation: An Argument with My Mexican Father*, called the computer "the great democratizer" because of its ability to provide access to information. "We know this is true," he said, "but is the computer an American citizen?"

"What is a library?" he asked. "There is a whole library of America that is disappearing. I looked in *Books in Print* and there were many books I could no longer find. I challenge the Library of Congress or the ALA to be a watchdog of those books that are going out of print. Dr. Billington suggested there will never be a substitute for a book.

"Beware when you hear the word 'information.' Information is not insight. Information is not wisdom. ... Bring in the computers to extend literacy. But also think about pre-literacy. Many cannot read."

—Guy Lamolinara
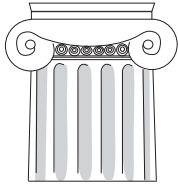
Dr. James Billington, Librarian of Congress, cuts the ribbon on the scanner given to the Geography and Map Division by Tangent Engineering. John Kluge, chairman of the Madison Council, looks on. In the background is Ralph Ehrenberg, chief of the Division.

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Rep. Ron Packard (R-Calif.), chairman of the Legislative Branch Appropriations Subcommittee, spoke of the significance of the Library's digitizing efforts at the ceremony on May 14.

"This whole program of digitizing key portions of our collections here at the Library of Congress—I can't tell you how significant that effort and that activity is. It is moving us truly into the 21st century in terms of information availability to the American public. ... I will take great pride in ... being a part of that program because I see such a remarkable future for the items that are here at the Library of Congress that are being digitized."

—*Helen Dalrymple*
Public Affairs Office

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